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Brucella Total Antibody

<ul style="list-style-type: none"> A single titers of less than or equal to 1:40 are not indicative of infection with <i>Brucella abortus</i>. A single titer of 1:80 or greater is presumptive evidence of infection. Evidence of a fourfold titer increase between acute and convalescent serum suggest a recent infection. Acute serum specimens should be collected as soon as possible after onset. Convalescent specimens should be collected 14-21 days thereafter. <p>Cross-reactions may occur between <i>Brucella abortus</i> and <i>Francisella tularensis</i> antigens and antisera. Therefore, both assays will be run on one specimen.</p>	<p><i>Test Type:</i> Agglutination</p> <p><i>Reference Range:</i> ≤1:40</p> <p><i>Specimen Requirements:</i> 1.0mL serum (VDHL Kit #13/14)</p> <p><i>Transport Temperature:</i> -20°C (dry ice)</p> <p><i>Set up:</i> Monday-Wednesday as needed</p> <p><i>Results Available:</i> Within 5 working days</p> <p><i>CPT Code:</i> 86622</p>	
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Campylobacter jejuni (see also Enteric Screen)

	<p><i>Test Type:</i> Culture</p> <p><i>Reference Range:</i> No <i>C. jejuni</i> recovered</p> <p><i>Specimen Requirements:</i> Stool preserved in Cary-Blair based transport media (VDHL Kit #1)</p> <p><i>Transport Temperature:</i> Room temperature, must be received within 4 days from date of collection</p> <p><i>Set up:</i> Monday-Friday</p> <p><i>Results Available:</i> 3 days from date of receipt</p> <p><i>CPT Code:</i> 87046/87077</p>	
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Chlamydia trachomatis and Neisseria gonorrhoeae

<p>Single specimens are tested for both organisms.</p> <p>This assay should <u>not</u> be used for test-of-cure specimens.</p>	<p><i>Test Type:</i> Nucleic Acid Amplified Test</p> <p><i>Reference Range:</i> Negative for <i>C. trachomatis</i> Negative for <i>N. gonorrhoeae</i></p> <p><i>Specimen Requirements:</i> Gen-Probe Aptima Combo 2 assay collection kit (urine or swab) (VDHL Kit #7)</p> <p><i>Transport Temperature:</i> 2-25°C within 60 days of collection for swabs; 30 days for urine specimens</p> <p><i>Set up:</i> Monday, Wednesday, Friday</p> <p><i>Results Available:</i> Within 4-7 working days</p> <p><i>CPT Code:</i> 87801</p>	
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<i>Corynebacterium</i> spp.		
Culture and identification of <i>Corynebacterium</i> spp.	<i>Test Type:</i> Culture <i>Reference Range:</i> No <i>Corynebacterium</i> recovered <i>Specimen Requirements:</i> Pure isolate <i>Transport Temperature:</i> Room temperature <i>Set up:</i> As needed <i>Results Available:</i> 3 days from date of receipt <i>CPT Code:</i> 87070/87077	
Cryptosporidia		
Enzyme immunoassay for <i>Cryptosporidium parvum</i> . This assay should <u>not</u> be used for test-of-cure specimens.	<i>Test Type:</i> EIA <i>Reference Range:</i> Negative <i>Specimen Requirements:</i> Stool in Sodium-acetate formalin (SAF) (VDHL Kit #2) or 10% buffered formalin. Specimen is acceptable for up to two months in these preservatives <i>Transport Temperature:</i> Room temperature <i>Set up:</i> Monday, Wednesday, Friday <i>Results Available:</i> Within 3 working days of receipt <i>CPT Code:</i> 87328	
Cyclospora		
	<i>Test Type:</i> Acid-fast stain <i>Reference Range:</i> No <i>Cyclospora</i> seen <i>Specimen Requirements:</i> Stool in Sodium-acetate formalin (SAF) (VDHL Kit #2) or 10% buffered formalin. Specimen is acceptable for up to two months in these preservatives <i>Transport Temperature:</i> Room temperature <i>Set up:</i> As needed <i>Results Available:</i> Within 4 working days <i>CPT Code:</i> 88312	

***E. coli* O157:H7 (see also Enteric Screen)**

Isolation and Identification of <i>E. coli</i> O157:H7	<i>Test Type:</i> <i>Reference Range:</i> <i>Specimen Requirements:</i> <i>Transport Temperature:</i> <i>Set up:</i> <i>Results Available:</i> <i>CPT Code:</i>	Culture No <i>E. coli</i> O157:H7 isolated Stool preserved in Cary-Blair based transport media (VDHL Kit #1) Room temperature, must be received within 4 days from date of collection Monday – Friday 3 days from date of receipt 87046/87077
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***E. coli* Shiga-like Toxin**

For the detection of Shiga-like Toxins I and II (Verotoxins) in stool specimens	<i>Test Type:</i> <i>Reference Range:</i> <i>Specimen Requirements:</i> <i>Transport Temperature:</i> <i>Set up:</i> <i>Results Available:</i> <i>CPT Code:</i>	EIA Negative Stool preserved in Cary-Blair based transport media (VDHL Kit #1) Room temperature: must be received within 4 days from the date of collection Monday, Wednesday, Friday Results available 24 hours after specimen setup 87427
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Enteric Screen

Culture for <i>Salmonella</i> , <i>Shigella</i> , <i>Campylobacter</i> , <i>Yersinia enterocolitica</i> , <i>E. coli</i> O157:H7, and non-O157:H7 Shiga-toxin producing <i>E. coli</i> .	<i>Test Type:</i> <i>Reference Range:</i> <i>Specimen Requirements:</i> <i>Transport Temperature:</i> <i>Set up:</i> <i>Results Available:</i> <i>CPT Code:</i>	Culture No pathogens isolated Stool preserved in Cary-Blair based transport media (VDHL Kit #1) Room temperature: must be received within 4 days from date of collection Monday – Friday 3 days from date of receipt 87046/87077
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Giardia		
<p>Enzyme immunoassay for <i>Giardia (lamblia) intestinalis</i>.</p> <p>This assay should <u>not</u> be used for test-of-cure specimens.</p>	<p><i>Test Type:</i> EIA</p> <p><i>Reference Range:</i> Negative</p> <p><i>Specimen Requirements:</i> Stool in Sodium-acetate formalin (SAF) (VDHL Kit #2) or 10% buffered formalin. Specimen is acceptable for up to two months in these preservatives.</p> <p><i>Transport Temperature:</i> Room Temperature</p> <p><i>Set up:</i> Monday, Wednesday, Friday</p> <p><i>Results Available:</i> Within 3 working days of receipt</p> <p><i>CPT Code:</i> 87329</p>	
Gonorrhea Culture		
<p>Culture and identification of <i>Neisseria gonorrhoeae</i>, usually used for test-of-cure patients or in case of suspect sexual assault.</p>	<p><i>Test Type:</i> Culture</p> <p><i>Reference Range:</i> No <i>N. gonorrhoeae</i> recovered</p> <p><i>Specimen Requirements:</i> Inoculated Jembec plate (VDHL Kit #8).</p> <p><i>Transport Temperature:</i> Incubate plates 16-18 hours at 37°C prior to sending or deliver to laboratory w/n 1 hour of collection. Do not refrigerate.</p> <p><i>Set up:</i> As needed</p> <p><i>Results Available:</i> 3 days from date of receipt</p> <p><i>CPT Code:</i> 87077</p>	
Haemophilis influenzae		
<p>Culture and identification of <i>Haemophilis influenzae</i></p>	<p><i>Test Type:</i> Culture</p> <p><i>Reference Range:</i> No <i>H. influenzae</i> recovered</p> <p><i>Specimen Requirements:</i> Pure isolate</p> <p><i>Transport Temperature:</i> Room temperature</p> <p><i>Set up:</i> As needed</p> <p><i>Results Available:</i> 3 days from date of receipt</p> <p><i>CPT Code:</i> 87040/87077/87147</p>	

Hepatitis B Panel		
Includes: <ul style="list-style-type: none"> • Hepatitis B surface Antigen • Hepatitis B core Total Antibody • Hepatitis B surface Antibody <p>The Hepatitis B Core IgM Antibody test will be performed on all repeatedly reactive Hepatitis B core Total Antibody results.</p>	<i>Test Type:</i> <i>Reference Range:</i> <i>Specimen Requirements:</i> <i>Transport Temperature:</i> <i>Set up:</i> <i>Results Available:</i> <i>CPT Code:</i>	EIA Negative 1.50mL serum (VDHL Kit#13/14) 2-25°C. Whole blood must be received within 7 days of collection. Monday and Thursday 6-8 working days 87340/86706/86704
Hepatitis B Core Total Antibody (IgG and IgM) (Total Anti-HBc)		
<p>Antibody to Hepatitis B core antigen is a marker of acute, chronic, or resolved HBV infection. It is not a marker of vaccine-induced-immunity. It may be used in pre-vaccination testing to determine previous exposure to HBV infection.</p> <p>IgG antibody subclass of anti-HBc is a marker of past or current infection with HBV. If it and HBsAg are both positive (in the absence of IgM anti-HBc), this indicates chronic HBV infection.</p>	<i>Test Type:</i> <i>Reference Range:</i> <i>Specimen Requirements:</i> <i>Transport Temperature:</i> <i>Set up:</i> <i>Results Available:</i> <i>CPT Code:</i>	EIA Non-reactive 1.0mL serum (VDHL Kit #13/14) 2-25°C. Whole blood must be received within 7 days of collection. Monday and Thursday 6-8 working days 86704
Hepatitis B Core IgM (IgM Anti-HBc)		
<p>*Performed on all repeatedly reactive Hep B core Total antibody results.</p> <p>IgM antibody subclass of anti-HBc. A positive result indicates recent infection with HBV (<6 mos.). Its presence indicates acute infection.</p>	<i>Test Type:</i> <i>Reference Range:</i> <i>Specimen Requirements:</i> <i>Transport Temperature:</i> <i>Set up:</i> <i>Results Available:</i> <i>CPT Code:</i>	EIA Non-reactive 1.0mL serum (VDHL Kit #13/14) 2-25°C. Whole blood must be received within 7 days of collection. As needed 6-8 working days 86705

Hepatitis B Surface Antibody (Anti-HBs)

<p>Antibody to Hepatitis B surface antigen is a marker of immunity. Its presence indicates an immune response to HBV infection, an immune response to vaccination, or the presence of passively acquired antibody.</p>	<p><i>Test Type:</i> EIA</p> <p><i>Reference Range:</i> Non-reactive</p> <p><i>Specimen Requirements:</i> 1.0mL serum (VDHL Kit #13/14)</p> <p><i>Transport Temperature:</i> 2-25°C. Whole blood must be received within 7 days of collection.</p> <p><i>Set up:</i> Monday and Thursday</p> <p><i>Results Available:</i> 6-8 working days</p> <p><i>CPT Code:</i> 86706</p>
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Hepatitis B Surface Antibody Quantitation

<p>Anti-HBs is the only easily measurable correlate of vaccine-induced protection. Immunocompetent persons who achieve anti-HBs concentrations ≥ 10 mIU/mL after pre-exposure vaccination have virtually complete protection against both acute disease and chronic infection even if anti-HBs concentrations subsequently decline to <10 mIU/mL.</p>	<p><i>Test Type:</i> EIA</p> <p><i>Reference Range:</i> Non-reactive</p> <p><i>Specimen Requirements:</i> 1.0mL serum (VDHL Kit #13/14)</p> <p><i>Transport Temperature:</i> 2-25°C. Whole blood must be received within 7 days of collection.</p> <p><i>Set up:</i> As needed</p> <p><i>Results Available:</i> Within 6-8 working days</p> <p><i>CPT Code:</i> 86706</p>
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Hepatitis B Surface Antigen

<p>Hepatitis B surface antigen is a marker of infectivity. Its presence indicates either acute or chronic HBV infection.</p> <p>Repeatedly Reactive HBsAg results are confirmed by neutralization.</p>	<p><i>Test Type:</i> EIA</p> <p><i>Reference Range:</i> Non-reactive</p> <p><i>Specimen Requirements:</i> 1.0mL serum (VDHL Kit #13/14)</p> <p><i>Transport Temperature:</i> 2-25°C. Whole blood must be received within 7 days of collection.</p> <p><i>Set up:</i> Monday and Thursday</p> <p><i>Results Available:</i> Within 6-8 working days</p> <p><i>CPT Code:</i> 87340/87341</p>
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Hepatitis C Antibody (Screen)

<p>Any specimen with a signal to cut-off ratio of >3.8 is considered positive and no supplemental testing will be done. For those positive specimens with s/co ratios of 3.8 or less the specimen will be sent to a reference laboratory for supplemental RIBA (Recombinant immunoblot assay) testing.</p>	<p><i>Test Type:</i> EIA</p> <p><i>Reference Range:</i> Non-reactive</p> <p><i>Specimen Requirements:</i> 1.0mL serum (VDHL Kit #13/14)</p> <p><i>Transport Temperature:</i> 2-25°C. Whole blood must be received within 7 days of collection.</p> <p><i>Set up:</i> Tuesday and Thursday</p> <p><i>Results Available:</i> Within 4-6 working days</p> <p><i>CPT Code:</i> 86803</p>
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HIV-1 Oral Fluid

<p>Confirmatory HIV-1 western blot testing will be performed on all HIV-/HIV-2 EIA repeatedly reactive specimens.</p>	<p><i>Test Type:</i> EIA</p> <p><i>Reference Range:</i> Non-reactive</p> <p><i>Specimen Requirements:</i> Oral mucosal exudates collected with the OraSure collection kit.</p> <p><i>Transport Temperature:</i> 2-25°C</p> <p><i>Set up:</i> Monday, Wednesday, Friday</p> <p><i>Results Available:</i> Within 4-5 working days for those specimens not needing repeat testing.</p> <p><i>CPT Code:</i> 86701</p>
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HIV-1 Oral Fluid Western Blot

<p>Confirmation test for HIV-1.</p> <p>Performed on all HIV-1 Oral Fluid repeatedly reactive results.</p> <p>For HIV-1 western blot test only requests: Please include screen test results on the requisition form.</p>	<p><i>Test Type:</i> Western Blot</p> <p><i>Reference Range:</i> Negative</p> <p><i>Specimen Requirements:</i> Oral mucosal exudates collected with the OraSure collection kit.</p> <p><i>Transport Temperature:</i> 2-25°C</p> <p><i>Set up:</i> As needed</p> <p><i>Results Available:</i> Within 10 working days.</p> <p><i>CPT Code:</i> 86689</p>
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HIV-1/HIV-2 (Screen)		
<p>Confirmatory HIV-1 western blot testing will be performed on all HIV-/HIV-2 EIA repeatedly reactive specimens.</p>	<p><i>Test Type:</i> EIA</p> <p><i>Reference Range:</i> Non-reactive</p> <p><i>Specimen Requirements:</i> 1.0mL serum (VDHL Kit #13/14)</p> <p><i>Transport Temperature:</i> 2-25°C. Whole blood must be received within 7 days of collection.</p> <p><i>Set up:</i> Monday, Wednesday, Friday</p> <p><i>Results Available:</i> Within 4 working days for Non-reactive results Within 6 working days for those specimens needing Western Blot</p> <p><i>CPT Code:</i> 86703</p>	
HIV-1 Western Blot		
<p>Confirmation test for HIV-1.</p> <p>Confirmatory western blot testing will be performed on all HIV-1/HIV-2 EIA repeatedly reactive specimens.</p> <p>For HIV-1 western blot test only requests: Please include screen test results on the requisition form.</p>	<p><i>Test Type:</i> Western blot</p> <p><i>Reference Range:</i> Negative</p> <p><i>Specimen Requirements:</i> 1.0mL serum (VDHL Kit #13/14)</p> <p><i>Transport Temperature:</i> 2-25°C. Whole blood must be received within 7 days of collection.</p> <p><i>Set up:</i> As needed</p> <p><i>Results Available:</i> Within 6 working days</p> <p><i>CPT Code:</i> 86689</p>	

Influenza A/B Culture (For Surveillance Purposes Only)		
<ul style="list-style-type: none"> Identification of Influenza A or Influenza B in culture. Specimens accepted from Sentinel Providers, Early Aberration Reporting System(EARS) Providers, and Long Term Care Facilities or other Institutions only. Suspect cases of Pandemic or Avian Influenza will be accepted for PCR testing with prior approval from Epidemiology. <ul style="list-style-type: none"> See also <u>Influenza PCR</u> <p>Please contact Epidemiology at 1-800-640-4374 or 863-7240 for guidelines.</p> <p>Specimens will NOT be tested without the following information:</p> <ul style="list-style-type: none"> Travel history Date of collection Date of onset Vaccination history 	<p><i>Test Type:</i> Culture</p> <p><i>Reference Range:</i> Influenza A and Influenza B not detected</p> <p><i>Specimen Requirements:</i> Throat swab and/or Nasopharyngeal swab (VDHL Kit #9)</p> <p><i>Transport Temperature:</i> 2-8 °C to arrive within 3 days of collection or freeze specimen at -70°C and ship on dry ice. Time in transit should not exceed 24 hours.</p> <p><i>Set up:</i> Tuesday and Friday</p> <p><i>Results Available:</i> 3 days after set up</p> <p><i>CPT Code:</i> 87275/87276</p>	
Influenza A PCR (For Surveillance Purposes Only)		
<ul style="list-style-type: none"> Suspect cases of Pandemic or Avian Influenza will only be accepted for PCR testing with prior approval from Epidemiology. <p>Please contact Epidemiology at 1-800-640-4374 or 863-7240 for guidelines.</p> <p>Specimens will NOT be tested without the following information:</p> <ul style="list-style-type: none"> Travel history Date of collection Date of onset Vaccination history <p>Swabs with calcium alginate or cotton tips and wooden shafts will not be tested.</p>	<p><i>Test Type:</i> PCR</p> <p><i>Reference Range:</i> Influenza A/H5 (Asian lineage) RNA not detected.</p> <p><i>Specimen Requirements:</i> Throat swab and/or Nasopharyngeal swab (VDHL Kit #9)</p> <p><i>Transport Temperature:</i> Contact the VDH Lab or Epidemiology for guidance.</p> <p><i>Set up:</i> As needed</p> <p><i>Results Available:</i> 1 working day</p> <p><i>CPT Code:</i> 87798</p>	

Lead, Adult Blood (Diagnostic)		
	<i>Test Type:</i> <i>Reference Range:</i> <i>Specimen Requirements:</i> <i>Transport Temperature:</i> <i>Set up:</i> <i>Results Available:</i> <i>CPT Code:</i>	Graphite Furnace Atomic Absorption <40.0µg/dL 100.0µL minimum whole blood; EDTA anticoagulant Refrigerate when not in transit (Recommended) Monday – Thursday Within 5 working days 83655

Lead, Childhood Blood (Diagnostic)		
	<i>Test Type:</i> <i>Reference Range:</i> <i>Specimen Requirements:</i> <i>Set up:</i> <i>Transport Temperature:</i> <i>Results Available:</i> <i>CPT Code:</i>	Graphite Furnace Atomic Absorption <10.0µg/dL 100.0µL minimum whole blood; EDTA anticoagulant Monday – Thursday Refrigerate when not in transit (Recommended) Within 5 working days 83655

Legionella Culture		
Isolation and Identification of <i>Legionella pneumophila</i>	<i>Test Type:</i> <i>Reference Range:</i> <i>Specimen Requirements:</i> <i>Transport Temperature:</i> <i>Results Available:</i> <i>CPT Code:</i>	Culture No <i>L. pneumophila</i> Isolated Sputum, pleural fluid, transtracheal aspirates, bronchial washings. (VDHL Kit #6) 2-8°C within 3 days of collection. If more than 3 days, ship frozen on dry ice. 7 days 87070/87077

Legionella IgG Antibody		
<i>Legionella pneumophila</i> serogroups 1-6 <ul style="list-style-type: none"> A standing or single titer of greater than or equal to 1:256 provides presumptive evidence of infection at an undetermined time. Solid evidence for a diagnosis of legionellosis is obtained when sero-conversion occurs with paired sera. A four-fold or greater rise in titer between the acute (within the first week) and convalescent (3-6 weeks after onset) specimen is an indicator of current infection. 	Test Type: IFA Reference Range: Titer < 1:64 Specimen Requirements: 0.5mL serum (VDHL Kit #13/14) Transport Temperature: 2-25°C. Whole blood must be received within 7 days of collection. Set up: Tuesday and Thursday Results Available: Within 5-7 working days CPT Code: 86713	

Legionella Urine Antigen		
<i>Legionella pneumophila</i> serogroup 1 Results are reported as <u>presumptive</u> only.	Test Type: Immunochromatographic membrane assay Reference Range: Presumptive Negative Specimen Requirements: Urine collected in standard containers. Transport Temperature: 2-8°C. Specimens should be received at VDHL within 24 hours of collection. Set up: As needed Results Available: 1 day (verbal), 3 working days (written) CPT Code: 87450	

Listeria spp.		
Culture and identification of <i>Listeria</i> spp.	Test Type: Culture Reference Range: No <i>Listeria</i> recovered Specimen Requirements: Pure isolate Transport Temperature: Room temperature Set up: As needed Results Available: 3 days from date of receipt CPT Code: 87040/87070/87077	

Measles (Rubeola) IgG Antibody (Diagnostic)

<p>*Specimen: 1.0mL of acute (at onset of symptoms) and convalescent (2 weeks later) serum.</p> <p>Report all suspect cases to Epidemiology at 1-800-640-4374 or 863-7240 before submitting specimen.</p>	<p><i>Test Type:</i> EIA</p> <p><i>Reference Range:</i> Measles IgG antibody not detected</p> <p><i>Specimen Requirements:</i> 1.0mL Acute serum* 1.0mL Convalescent serum* (VDHL Kit #13/14)</p> <p><i>Transport Temperature:</i> 2-25°C. Specimen should be received at VDHL within 2 days.</p> <p><i>Set up:</i> As needed</p> <p><i>Results Available:</i> 1 day (verbal), 3 working days (written)</p> <p><i>CPT Code:</i> 86765</p>
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Measles (Rubeola) IgG Antibody (Immune status)

<p>A reactive result indicates immunity to Rubeola infection.</p>	<p><i>Test Type:</i> EIA</p> <p><i>Reference Range:</i> Measles IgG antibody not detected</p> <p><i>Specimen Requirements:</i> 1.0mL (minimum 0.25mL) serum (VDHL Kit #13/14)</p> <p><i>Transport Temperature:</i> 2-25°C. Specimen should be received at VDHL within 2 days.</p> <p><i>Set up:</i> Tuesday and Friday</p> <p><i>Results Available:</i> Within 6 working days</p> <p><i>CPT Code:</i> 86765</p>
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Measles (Rubeola) IgM Antibody (Diagnostic)

<p>Report all suspect cases to Epidemiology at 1-800-640-4374 or 863-7240 before submitting specimen.</p> <p>*1.0mL serum drawn at least 3 days after rash</p>	<p><i>Test Type:</i> Capture EIA</p> <p><i>Reference Range:</i> Measles IgM antibody not detected</p> <p><i>Specimen Requirements:</i> 1.0mL serum* (VDHL Kit#13/14)</p> <p><i>Transport Temperature:</i> 2-25°C. Specimen should be received at VDHL within 2 days.</p> <p><i>Set up:</i> As needed</p> <p><i>Results Available:</i> 1 day (verbal) 3 working days (written)</p> <p><i>CPT Code:</i> 86765</p>
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Mumps IgG antibody (Immune status)

<p>A reactive result indicates immunity to Mumps infection.</p>	<p><i>Test Type:</i> EIA</p> <p><i>Reference Range:</i> Mumps antibody not detected</p> <p><i>Specimen Requirements:</i> 1.0mL (minimum 0.25mL) serum (VDHL Kit #13/14)</p> <p><i>Transport Temperature:</i> 2-25°C. Specimen should be received at VDHL within 2 days.</p> <p><i>Set up:</i> Tuesday and Friday</p> <p><i>Results Available:</i> Within 6 working days</p> <p><i>CPT Code:</i> 86735</p>
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Mycology

<ul style="list-style-type: none"> ▪ Mycology specimens are accepted only from specimens also submitted for mycobacterial analysis. ▪ Yeasts are identified by the Vitek card system. ▪ Filamentous fungi are referred to a reference laboratory. 	<p><i>Test Type:</i> Culture</p> <p><i>Reference Range:</i> No yeast recovered</p> <p><i>Specimen Requirements:</i> Sputum: > 2.0mL (VDHL Kit #6)</p> <p>CSF: > 2.0mL</p> <p>Tissue: Sterile container with a small amount of sterile saline</p> <p>Blood: Collect in SPS tube. Do not use sodium heparin as an anti-coagulant</p> <p>Pleural fluid: > 2.0mL</p> <p>Bronchial wash /lavage: > 2.0mL</p> <p><u>Swab specimens will not be accepted</u></p> <p><i>Transport Temperature:</i> 2-8°C</p> <p><i>Set up:</i> As needed</p> <p><i>Results Available:</i> 21-28 days</p> <p><i>CPT Code:</i> 87102</p>
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Mycobacteria		
<ul style="list-style-type: none"> Standard procedures are used for the staining and culture of all mycobacteria. Specimens are inoculated to both solid and liquid media using conventional and Versa-Trek ESP methods. Acid fast bacilli growing in culture are identified by both Gen-Probe DNA and biochemical identification methods. AFB positive smear specimens are automatically tested by Nucleic Acid Amplification for <i>Mycobacteria tuberculosis complex</i>. Specimens are set up Monday –Friday and smear results are faxed to the provider the same day as specimen receipt. 	<i>Test Type:</i>	(see left)
	<i>Reference Range:</i>	Smear: No acid-fast bacilli seen Culture: No mycobacteria recovered
	<i>Specimen Requirements:</i>	Sputum: > 2.0mL, three specimens, each more than 24 hours apart (VDHL Kit #6) CSF: > 2.0mL (VDHL Kit #6) Tissue: Sterile container with a small amount of sterile saline (VDHL Kit #6) Blood: Collect in SPS tube. <u>Do not use sodium heparin as an anti-coagulant</u> Pleural fluid: > 2.0mL (VDHL Kit #6) Bronchial wash /lavage: > 2.0mL (VDHL Kit #6) Urine: >40.0mL. First morning, clean catch. <u>Do not pool specimens.</u> (VDHL Kit #6) Swab specimens will not be accepted.
	<i>Transport Temperature:</i>	2-8°C
	<i>Set up:</i>	Monday – Friday
	<i>Results Available:</i>	Culture results : 6 weeks Smear results within 24 hours of arrival at VDHL (except weekends) Nucleic Acid Amp: 24 hours
	<i>CPT Code:</i>	Culture: 87118 Acid-Fast Smear: 87206 Nucleic acid Amp: 87556

<i>Mycobacteria tuberculosis</i> Amplified Direct Test		
<ul style="list-style-type: none"> This assay uses the Gen-Probe <i>Mycobacteria tuberculosis</i> complex Direct Test (MTD), an amplified diagnostic test for the detection of <i>M. tuberculosis</i> complex RNA directly from respiratory specimens. The MTD test is intended for use in evaluating AFB smear positive specimens from untreated patients suspected of having tuberculosis. This test is automatically performed on all respiratory specimens that are AFB smear positive. The MTD test may be ordered, <u>if the specimen is smear negative and the patient is suspected of having tuberculosis</u>. Please contact the VDHL prior to sending the specimen. A negative result does not exclude the possibility of isolating <i>M. tuberculosis</i> complex from the specimen. 	<p><i>Test Type:</i> Nucleic Acid Amplification</p> <p><i>Reference Range:</i> Negative for <i>M. tuberculosis</i> complex RNA</p> <p><i>Specimen Requirements:</i> Sputum: > 3.0mL Bronchial wash /lavage: > 2.0mL (Grossly bloody specimens are NOT recommended, and may result in invalid results.)</p> <p><i>Transport Temperature:</i> Specimens must be refrigerated and reach the laboratory within 72 hours of collection.</p> <p><i>Set up:</i> As needed</p> <p><i>Results Available:</i> 24 hours</p> <p><i>CPT Code:</i> 87556</p>	

<i>M. tuberculosis</i> Antimicrobial Susceptibility AFB Primary Drug Panel		
<p><i>M. tuberculosis</i> drug panel includes:</p> <ul style="list-style-type: none"> Ethambutol, Isoniazid, Rifampin, and PZA by Trek Diagnostics ESP® method. <p>Specimens can be forwarded to a reference laboratory for second-line drug susceptibility testing upon request.</p>	<p><i>Test Type:</i> (see left)</p> <p><i>Reference Range:</i> By report</p> <p><i>Specimen Requirements:</i> Pure culture: safely contained</p> <p><i>Transport Temperature:</i> Isolate: room temperature</p> <p><i>Set up:</i> As needed</p> <p><i>Results Available:</i> 14-21 days</p> <p><i>CPT Code:</i> 87184/87188</p>	

<i>Neisseria gonorrhoeae</i> and <i>Chlamydia trachomatis</i>		
<p>Single specimens are tested for both organisms.</p> <p>This assay should <u>not</u> be used for test-of-cure specimens.</p>	<i>Test Type:</i>	Nucleic Acid Amplified Test
	<i>Reference Range:</i>	Negative for <i>C. trachomatis</i> Negative for <i>N. gonorrhoeae</i>
	<i>Specimen Requirements:</i>	Gen-Probe Aptima Combo 2 assay collection kit (urine or swab) (VDHL Kit #7)
	<i>Transport Temperature:</i>	2-25°C within 60 days of collection for swabs, 30 days for urine specimens
	<i>Set up:</i>	Monday, Wednesday, Friday
	<i>Results Available:</i>	Within 4-7 working days
	<i>CPT Code:</i>	87801

<i>Neisseria gonorrhoeae</i> Culture		
<p>Culture and identification of <i>Neisseria gonorrhoeae</i>, usually used for test-of-cure patients or in case of suspect sexual assault.</p>	<i>Test Type:</i>	Culture
	<i>Reference Range:</i>	No <i>N. gonorrhoeae</i> recovered
	<i>Specimen Requirements:</i>	Inoculated Jembec plate (VDHL Kit #8).
	<i>Transport Temperature:</i>	Incubate plates 16-18 hours at 37°C prior to sending or deliver to laboratory w/n 1 hour of collection. <u>Do not refrigerate.</u>
	<i>Set up:</i>	As needed
	<i>Results Available:</i>	3 days from date of receipt
	<i>CPT Code:</i>	87077

<i>Neisseria meningitidis</i>		
<p>Identification and serotyping of <i>Neisseria meningitidis</i></p>	<i>Test Type:</i>	Identification and serotyping
	<i>Reference Range:</i>	No <i>N. meningitidis</i> recovered
	<i>Specimen Requirements:</i>	Pure isolate on Chocolate slant
	<i>Transport Temperature:</i>	Room temperature
	<i>Set up:</i>	As needed
	<i>Results Available:</i>	24 hours from date of receipt
	<i>CPT Code:</i>	87040/87077

Norovirus		
<p><u>For investigational use only.</u></p> <p>Please contact Epidemiology at 1-800-640-4374 or 863-7240 <u>before</u> submitting specimen.</p>	<p><i>Test Type:</i> PCR</p> <p><i>Reference Range:</i> No Norovirus nucleic acid detected</p> <p><i>Specimen Requirements:</i> Raw stool (VDHL Kit #23)</p> <p><i>Transport Temperature:</i> 2-8°C within 24 hours of collection</p> <p><i>Set up:</i> As needed</p> <p><i>Results Available:</i> 5 working days</p> <p><i>CPT Code:</i> 87798</p>	
Ova & Parasites (O&P)		
<p>Concentrated and permanent slides. Iron hemotoxilyn stain, and iodine stain for wet mounts</p>	<p><i>Test Type:</i> Microscopic examination</p> <p><i>Reference Range:</i> No parasites seen</p> <p><i>Specimen Requirements:</i> Stool in Sodium-acetate formalin (SAF) (VDHL Kit #2) <u>or</u> 10% buffered formalin. Specimen is acceptable for up to two months in these preservatives.</p> <p><i>Transport Temperature:</i> Room temperature</p> <p><i>Set up:</i> Monday – Friday</p> <p><i>Results Available:</i> Within 6 working days</p> <p><i>CPT Code:</i> 88313</p>	
Pertussis Culture		
<p>Isolation and identification of <i>Bordetella pertussis</i></p>	<p><i>Test Type:</i> Culture</p> <p><i>Reference Range:</i> No <i>B. pertussis</i> recovered</p> <p><i>Specimen Requirements:</i> Nasopharyngeal swab: Inoculate one Regan Lowe plate, then place swab into Regan Lowe transport tube (VDHL Kit #5)</p> <p><i>Transport Temperature:</i> 2-8°C within 24 hours of collection</p> <p><i>Set up:</i> As needed</p> <p><i>Results Available:</i> 7 days</p> <p><i>CPT Code:</i> 87070/87077</p>	

Pertussis PCR

<p><i>Bordetella pertussis</i> DNA qualitative real-time PCR.</p> <ul style="list-style-type: none"> Report all suspect cases to Epidemiology at 1-800-640-4374 or 863-7240 <p>*Beginning January 1, 2008*</p> <p>*The performance characteristics of this test have been determined by the VDH Laboratory. Performance characteristics refer to the analytical performance of the test.</p>	<p><i>Test Type:</i> PCR</p> <p><i>Reference Range:</i> No <i>B. pertussis</i> DNA detected</p> <p><i>Specimen Requirements:</i> Dacron nasopharyngeal swab: Inoculate one Regan Lowe plate, then place swab into Regan Lowe transport tube (VDHL Kit #5)</p> <p><i>Transport Temperature:</i> 2-8°C within 24 hours of collection</p> <p><i>Set up:</i> Mondays and Thursdays</p> <p><i>Results Available:</i> Within 4 working days</p> <p><i>CPT Code:</i> 87798</p>
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Pinworm

<p>Specimen needs to be taken first thing in the morning, prior to rising.</p>	<p><i>Test Type:</i> Microscopic exam</p> <p><i>Reference Range:</i> No pinworm seen</p> <p><i>Specimen Requirements:</i> Pinworm paddle (VDHL Kit #17) or scotch tape slide.</p> <p><i>Transport Temperature:</i> Room temperature</p> <p><i>Set up:</i> As needed</p> <p><i>Results Available:</i> Within 24 hours</p> <p><i>CPT Code:</i> 87172</p>
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Rotavirus antigen

<p>For use by <u>Designated Providers only</u> at this time.</p>	<p><i>Test Type:</i> EIA</p> <p><i>Reference Range:</i> Negative</p> <p><i>Specimen Requirements:</i> Raw stool (VDHL Kit #20)</p> <p><i>Transport Temperature:</i> 2-8°C within 72 hours of collection</p> <p><i>Set up:</i> Monday, Wednesday, Friday</p> <p><i>Results Available:</i> Within 24 hours</p> <p><i>CPT Code:</i> 87425</p>
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Rubella IgG Antibody		
<ul style="list-style-type: none"> ▪ Patient Rubella IgG results equal to or greater than 10 IU/mL indicate past exposure to either rubella virus or vaccine, and probable protection from clinical infection. ▪ Antibody levels less than 10 IU/mL may be insufficient to provide protection from rubella virus infection. ▪ For diagnosis of current or recent rubella infection, obtain paired sera (acute and convalescent). The acute specimen should be collected as soon as possible after the onset of a rash or at the time of exposure. The convalescent specimen should be obtained from 10-21 days after the onset of a rash or at least 30 days after exposure in the absence of clinical symptoms associated with a rubella infection. A four-fold or greater rise in antibody titer or seroconversion is indicative of a primary or recent rubella infection. ▪ Seroconversion may also be seen after a vaccination procedure. Some persons previously exposed to rubella may demonstrate a rise in antibody titer. This is thought to represent re-infection and these patients rarely develop symptoms. 	<p><i>Test Type:</i> Latex Agglutination</p> <p><i>Reference Range:</i> Rubella IgG antibodies <10 mIU/mL</p> <p><i>Specimen Requirements:</i> 0.5mL serum (VDHL Kit #13/14)</p> <p><i>Transport Temperature:</i> 2-25°C. Specimen should be received at VDHL within 2 days.</p> <p><i>Set up:</i> Monday, Wednesday, Friday</p> <p><i>Results Available:</i> Within 6 working days</p> <p><i>CPT Code:</i> 86762</p>	

Rubella IgM Antibody		
<p>Report all suspect cases to Epidemiology at 1-800-640-4374 or 863-7240 prior to submitting specimen.</p>	<p><i>Test Type:</i> EIA</p> <p><i>Reference Range:</i> Rubella IgM antibody not detected</p> <p><i>Specimen Requirements:</i> 1.0mL serum (VDHL Kit #13/14)</p> <p><i>Transport Temperature:</i> 2-25°C. Specimen should be received at VDHL within 2 days.</p> <p><i>Set up:</i> As needed</p> <p><i>Results Available:</i> 1 day (verbal), 3 days(written)</p> <p><i>CPT Code:</i> 86762</p>	

Salmonella spp. (see also Enteric Screen)

Isolation and Identification of <i>Salmonella</i> spp.	<i>Test Type:</i> <i>Reference Range:</i> <i>Specimen Requirements:</i> <i>Set up:</i> <i>Transport Temperature:</i> <i>Results Available:</i> <i>CPT Code:</i>	Culture No <i>Salmonella</i> isolated Stool preserved in Cary-Blair based transport media (VDHL Kit #1) Monday – Friday Room temperature: must be received within 4 days from date of collection 3 days from date of receipt 87045/87077
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Shigella spp. (see also Enteric Screen)

Isolation and Identification of <i>Shigella</i> spp.	<i>Test Type:</i> <i>Reference Range:</i> <i>Specimen Requirements:</i> <i>Transport Temperature:</i> <i>Set up:</i> <i>Results Available:</i> <i>CPT Code:</i>	Culture No <i>Shigella</i> isolated Stool preserved in Cary-Blair based transport media (VDHL Kit #1) Room temperature: must be received within 4 days from date of collection Monday – Friday 3 days from date of receipt 87045/87077
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Syphilis (RPR) (screen)

The Rapid Plasma Reagin (RPR) is a macroscopic, nontreponemal, screening procedure for the serologic detection of syphilis. Reactive RPR specimens are quantitated and a FTA-ABS test is performed to confirm reactive RPR results.	<i>Test Type:</i> <i>Reference Range:</i> <i>Specimen Requirements:</i> <i>Transport Temperature:</i> <i>Set up:</i> <i>Results Available:</i> <i>CPT Code:</i>	Agglutination Non-reactive 0.5mL serum (VDHL Kit #13/14) 2-25°C. Specimen should be received at VDHL within 2 days. Monday, Wednesday, Friday Within 4 working days for negative results 86592
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Syphilis Fluorescent Treponemal Antibody-Absorption (FTA-ABS)

<p>FTA-ABS test has never been and is not now being recommended as a routine screening test for syphilis. Its recommended use is to confirm the reactive results of a sensitive, but less specific screening test for syphilis, such as the RPR or VDRL-CSF or as a specific diagnostic test in patients with signs or symptoms suggestive of late syphilis.</p>	<i>Test Type:</i>	Indirect Fluorescent Antibody
	<i>Reference Range:</i>	Non-reactive
	<i>Specimen Requirements:</i>	0.5mL serum (VDHL Kit #13/14)
	<i>Set up:</i>	Tuesday and Thursday
	<i>Transport Temperature:</i>	2-25°C. Specimen should be received at VDHL within 5 days.
	<i>Results Available:</i>	Within 6 working days
	<i>CPT Code:</i>	86781

Syphilis VDRL

<p>The Venereal Disease Research Laboratory (VDRL) test is a slide micro-flocculation test for syphilis.</p>	<i>Test Type:</i>	Flocculation
	<i>Reference Range:</i>	Non-reactive
	<i>Specimen Requirements:</i>	0.5mL Cerebrospinal Fluid (CSF) ONLY
	<i>Set up:</i>	Tuesday and Friday
	<i>Transport Temperature:</i>	2-25°C. Specimen should be received at VDHL within 5 days.
	<i>Results Available:</i>	Within 5 working days
	<i>CPT Code:</i>	86592

Toxoplasma IgG Antibody

<p>No single titer is diagnostic.</p> <p>The presence of active infection with <i>Toxoplasma gondii</i> may be confirmed by demonstrating a 4-fold or greater rise in IgG in a second serum specimen drawn three weeks after the first.</p> <p>A stable titer (+/- a single two-fold dilution) between acute and convalescent sera indicates past exposure.</p>	<i>Test Type:</i>	IFA
	<i>Reference Range:</i>	<1:16
	<i>Specimen Requirements:</i>	1.0mL serum (VDHL Kit #13/14)
	<i>Set up:</i>	Tuesday and Friday
	<i>Transport Temperature:</i>	2-25°C. Specimen should be received at VDHL within 2 days.
	<i>Results Available:</i>	Within 5 working days
	<i>CPT Code:</i>	86777

Toxoplasma IgM Antibody

<p>The <i>Toxoplasma gondii</i> IgM EIA will be performed on specimens with an IgG titer of 1:256 or greater.</p>	<p><i>Test Type:</i> EIA</p> <p><i>Reference Range:</i> Negative</p> <p><i>Specimen Requirements:</i> 0.5mL serum (VDHL Kit #13/14)</p> <p><i>Set up:</i> As needed</p> <p><i>Transport Temperature:</i> 2-25°C. Specimen should be received at VDHL within 2 days.</p> <p><i>Results Available:</i> Within 6 working days</p> <p><i>CPT Code:</i> 86778</p>	
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Tularemia Total Antibody

<ul style="list-style-type: none"> A single titer of 1:20 or below are usually not diagnostic for infection with <i>Francisella tularensis</i> A single titer of 1:20 to 1:80 without clinical symptoms suggest of infection at some past time. These titers can persist for years following infection. A single titer of 1:20 to 1:80 with fever and symptoms indicates recent infection. A single titer of 1:160 or greater is presumptive evidence of infection. Acute serum specimens should be collected 2 weeks after onset. Convalescent specimens should be taken 2 weeks after the acute Evidence of a fourfold titer difference between acute and convalescent serum suggest a recent infection. <p>Cross-reactions may occur between <i>Brucella abortus</i> and <i>Francisella tularensis</i> antigens and antisera. Therefore, both assays will be run on one specimen.</p>	<p><i>Test Type:</i> Agglutination</p> <p><i>Reference Range:</i> <1:20</p> <p><i>Specimen Requirements:</i> 1.0mL serum (VDHL Kit #13/14)</p> <p><i>Set up:</i> Monday – Wednesday as needed</p> <p><i>Transport Temperature:</i> -20°C (dry ice)</p> <p><i>Results Available:</i> Within 4 working days</p> <p><i>CPT Code:</i> 86668</p>	
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Varicella IgG Antibody

<p>A reactive result indicates immunity to Varicella infection</p>	<p><i>Test Type:</i> EIA</p> <p><i>Reference Range:</i> Varicella antibody not detected</p> <p><i>Specimen Requirements:</i> 1.0mL (minimum 0.25mL) serum (VDHL Kit #13/14)</p> <p><i>Set up:</i> Tuesday and Friday</p> <p><i>Transport Temperature:</i> 2-25°C. Specimen should be received at VDHL within 2 days.</p> <p><i>Results Available:</i> Within 6 working days</p> <p><i>CPT Code:</i> 86787</p>	
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Clinical Lab Services Manual

Clinical Tests Available

<i>Vibrio</i> spp.		
Isolation and Identification of <i>Vibrio</i> spp.	<i>Test Type:</i> <i>Reference Range:</i> <i>Specimen Requirements:</i> <i>Set up:</i> <i>Transport Temperature:</i> <i>Results Available:</i> <i>CPT Code:</i>	Culture No <i>Vibrio</i> isolated Stool preserved in Cary-Blair based transport media (VDHL Kit #1) As needed Room temperature: must be received within 4 days from date of collection 3 days from date of receipt 87046/87077

<i>Yersinia enterocolitica</i> (see also Enteric Screen)		
Isolation and Identification of <i>Yersinia enterocolitica</i> .	<i>Test Type:</i> <i>Reference Range:</i> <i>Specimen Requirements:</i> <i>Set up:</i> <i>Transport Temperature:</i> <i>Results Available:</i> <i>CPT Code:</i>	Culture No <i>Y. enterocolitica</i> isolated Stool preserved in Cary-Blair based transport media (VDHL Kit #1) Monday – Friday Room temperature: must be received within 4 days from date of collection 3 days from date of receipt 87045/87077